What is claimed is:

1. A method of performing a calculation of a function, the method comprising:

identifying a set of coefficient values associated with a function;

generating a reduced-width coefficient value by reducing the data width of at least one of the coefficient values to have a first data width less than a second data width; and

storing the reduced-width coefficient value in a machine executable instruction.

2. A method as defined in claim 1, wherein the function is a polynomial.

3. A method as defined in claim 2, wherein the polynomial is an approximating polynomial that approximates at least one of a transcendental function and an algebraic function.

4. A method as defined in claim 2, wherein the reduced-width coefficient value is associated with a highest-degree term of the polynomial.

5. A method as defined in claim 1, wherein storing the reduced-width coefficient value in the machine executable instruction comprises storing the reduced-width coefficient value as an immediate value.

6. A method as defined in claim 1, wherein storing the reduced-width coefficient value in the machine executable instruction comprises storing the reduced-width coefficient value in an instruction memory.

7. An apparatus for performing a calculation of a function, the apparatus comprising:

a processor system including a memory; and

instructions stored in the memory that enable the processor system to:

identify a set of coefficient values associated with a function;

generate a reduced-width coefficient value by reducing the data width of at least one of the coefficient values to have a first data width less than a second data width; and

store the reduced-width coefficient value in a machine executable instruction.

8. An apparatus as defined in claim 7, wherein the function is a polynomial.

9. An apparatus as defined in claim 8, wherein the polynomial is an approximating polynomial that approximates at least one of a transcendental function and an algebraic function.

10. An apparatus as defined in claim 8, wherein the reduced-width coefficient value is associated with a highest-degree term of the polynomial.

11. An apparatus as defined in claim 7, wherein the instructions stored in the memory enable the processor system to store the reduced-width coefficient value in the machine executable instruction as an immediate value.

12. An apparatus method as defined in claim 7, wherein the instructions stored in the memory enable the processor system to store the machine executable instruction in an instruction memory.

13. A machine accessible medium having instructions stored thereon that, when executed, cause a machine to:

identify a set of coefficient values associated with a function;

generate a reduced-width coefficient value by reducing the data width of at least one of the coefficient values to have a first data width less than a second data width; and

store the reduced-width coefficient value in a machine executable instruction.

14. A machine accessible medium as defined in claim 13, wherein the function is a polynomial.

15. A machine accessible medium as defined in claim 14, wherein the set of coefficient values is associated with an approximating polynomial that approximates at least one of a transcendental function and an algebraic function.

16. A machine accessible medium as defined in claim 14 having instructions stored thereon that, when executed, cause the machine to generate the reduced-width coefficient value based on a highest-degree term of the polynomial.

17. A machine accessible medium as defined in claim 13 having instructions stored thereon that, when executed, cause the machine to store the reduced-width coefficient value in the machine executable instruction as an immediate value.

18. A machine accessible medium as defined in claim 13 having instructions stored thereon that, when executed, cause the machine to store the machine executable instruction in an instruction memory.

19. An apparatus for performing a calculation of a function, the apparatus comprising:

a processor system including a flash memory; and

instructions stored in the flash memory that enable the processor system to:

identify a set of coefficient values associated with a function;

generate a reduced-width coefficient value by reducing the data width of at least one of the coefficient values to have a first data width less than a second data width; and

store the reduced-width coefficient value in a machine executable instruction.

20. An apparatus as defined in claim 19, wherein the function is an approximating polynomial that approximates at least one of a transcendental function and an algebraic function.

21. A method of determining an evaluation value of a polynomial, the method comprising:

separating an input argument value into a plurality of reduced-width values;

determining a plurality of evaluation values associated with the polynomial based on the plurality of reduced-width values; and

determining the evaluation value of the polynomial based on the plurality of evaluation values.

22. A method as defined in claim 21, wherein a sum of the plurality of reduced-width values is equal to the input argument value.

23. A method as defined in claim 21, wherein determining the plurality of evaluation values comprises determining the product of at least one of the plurality of reduced-width values and at least one coefficient of the polynomial using a short multiplication instruction.

24. A method as defined in claim 21, wherein determining the plurality of evaluation values comprises differentiating the polynomial.

25. A method as defined in claim 21, wherein determining the evaluation value of the polynomial comprises determining a sum of the plurality of evaluation values.

26. A method as defined in claim 21, wherein determining the plurality of evaluation values comprises determining a correction term value.

27. An apparatus for determining an evaluation value of a polynomial, the apparatus comprising:

a processor system including a memory; and

instructions stored in the memory that enable the processor system to:

separate an input argument value into a plurality of reduced-width values;

determine a plurality of evaluation values associated with the polynomial based on the plurality of reduced-width values; and

determine the evaluation value of the polynomial based on the plurality of evaluation values.

28. An apparatus as defined in claim 27, wherein a sum of the plurality of reduced-width values is equal to the input argument value.

29. An apparatus as defined in claim 27, wherein the instructions stored in the memory enable the processor system to determine the plurality of evaluation values by determining the product of at least one of the plurality of reduced-width values and at least one coefficient of the polynomial using a short multiplication instruction.

30. An apparatus as defined in claim 27, wherein the instructions stored in the memory enable the processor system to determine the plurality of evaluation values by differentiating the polynomial.

31. An apparatus as defined in claim 27, wherein the instructions stored in the memory enable the processor system to determine the evaluation value of the polynomial based on determining a sum of the plurality of evaluation values.

32. An apparatus as defined in claim 27, wherein a correction term value is associated with the plurality of evaluation values.

33. A machine accessible medium having instructions stored thereon that, when executed, cause a machine to:

separate an input argument value into a plurality of reduced-width values;

determine a plurality of evaluation values associated with the polynomial based on the plurality of reduced-width values; and

determine the evaluation value of the polynomial based on the plurality of evaluation values.

34. A machine accessible medium as defined in claim 33 having instructions stored thereon that, when executed, cause the machine to determine the plurality of evaluation values by determining the product of at least one of the plurality of reduced-width values and at least one coefficient of the polynomial using a short multiplication instruction.

35. A machine accessible medium as defined in claim 33 having instructions stored thereon that, when executed, cause the machine to determine the plurality of evaluation values by differentiating the polynomial.

36. A machine accessible medium as defined in claim 33 having instructions stored thereon that, when executed, cause the machine to determine the evaluation value of the polynomial based on determining a sum of the plurality of evaluation values.

37. An apparatus for determining an evaluation value of a polynomial, the apparatus comprising:

a processor system including a flash memory; and

instructions stored in the flash memory that enable the processor system to:

separate an input argument value into a plurality of reduced-width values;

determine a plurality of evaluation values associated with the polynomial based on the plurality of reduced-width values; and

determine the evaluation value of the polynomial based on the plurality of evaluation values.

38. An apparatus as defined in claim 37, wherein the instructions stored in the flash memory enable the processor system to determine the plurality of evaluation values by determining the product of at least one of the plurality of reduced-width values and at least one coefficient of the polynomial using a short multiplication instruction.

39. An apparatus for determining an evaluation value of a polynomial, the apparatus comprising:

a reduced-width data generator configured to generate at least one reduced-width data value;

a function selector communicatively coupled to the reduced-width data generator and configured to select at least one function based on the at least one reduced-width data value; and

a comparator communicatively coupled to the reduced-width data generator and the function selector, wherein the comparator is configured to perform at least one comparison based on the at least one function.

40. An apparatus as defined in claim 39, wherein the at least one function includes an approximating polynomial.

41. An apparatus as defined in claim 40, wherein the approximating polynomial is associated with a mixed-width polynomial.

42. An apparatus as defined in claim 39, wherein the at least one reduced-width data value is a short-width coefficient value.

43. An apparatus as defined in claim 39, wherein the at least one reduced-width data value is a long-width coefficient value.

44. An apparatus as defined in claim 39, further comprising a differentiator communicatively coupled to the function selector that may be configured to differentiate the at least one function.